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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/656,504	09/07/2000	Peter Krause	004860.P2449	2231

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EXAMINER	
YANCHUS III, PAUL B	

ART UNIT	PAPER NUMBER
2116	

DATE MAILED: 08/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/656,504	KRAUSE ET AL.	
	Examiner	Art Unit	
	Paul B. Yanchus	2116	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-9,11-15 and 17-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-9,11-15 and 17-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This non-final office action is in response to amendments filed on 6/3/05.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2, 4-9 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Song, US Patent no. 6,049,880, in view of, Applicant's Admitted Prior Art [AAPA], Mullett et al., US Patent no. 6,330,169 [Mullett] and Jansen, US Patent no. 5,835,360[1].

Regarding claims 1 and 8, Song discloses a power supply circuit for a digital processing system, the circuit comprising:

a first stage [Primary Power Supply in Figure 2] having a first output coupled to a first component [output to Heater Circuit in Figure 2] of the digital processing system and a second output [output to Hub Power Supply in Figure 2] which is different from the first output;

a second stage [Hub Power Supply in Figure 2] associated with a second component of the digital processing system [USB hub for connecting peripheral devices, column 5, lines 5-9 and 50-54], said second stage coupled to said first stage [Figure 2 and column 5, lines 52-54]; and

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[1] included in office action mailed on 4/14/04.

wherein said first stage drives said second stage using the second output [column 5, lines 52-54], and wherein the second stage transforms the second output to generate a third output [Figures 2-4 and column 5, lines 50-54] to drive the second component, and wherein the first output is independent of the second stage [Figure 2].

Song, as described above, discloses a power supply circuit for a digital processing system, but Song does not explicitly teach that the first stage comprises a flyback converter to supply power to the display device and the second stage comprises a portion of a forward converter to supply power to the microprocessor. However, AAPA states that flyback converters are well known devices for supplying power to display devices [page 2, lines 1-3] and that forward converters are well known devices for supplying power to microprocessors [page 2, lines 12-14]. AAPA also discloses that the well known flyback converter comprises an output winding [Figure 1A] and that the well known forward converter comprises an input winding [Figure 1B]. It would have been obvious to one of ordinary skill in the art to modify the Song power supply circuit to use a well known flyback converter to generate high voltages from low current in order to supply the display device and to use a well known forward converter to generate low voltages from high current in order to supply power to the microprocessor [AAPA, page 2, lines 1-3 and 12-14].

AAPA discloses a well known flyback converter circuit, but does not specifically disclose a flyback circuit with a second output winding. However, multiple output flyback converter circuits are well known in the art. Mullett discloses a two output flyback converter having a first output winding for supplying an output voltage to a first load and a second transformer winding for supplying an output voltage to a second load [column 2, lines 8-26 and

Figure 1]. It would have been obvious to one of ordinary skill in the art to use the well known multiple output flyback converter circuit in the Song power supply circuit to supply a first output voltage to the Heater Circuit and a second output voltage to the Hub Power Supply.

Song does not explicitly teach that the first and second stages are coupled to each other by a two wire bus. However, as shown by Jansen, transferring power over a two wire bus is well known in the art. Jansen discloses coupling stages in a multi-stage power supply using a two wire bus [0v and +ve, Figure 3 and column 3, lines 45-67].

Regarding claim 2, Song discloses that first and second stages are separated from each other [Figure 2].

Regarding claim 4, in the non-final office action dated 9/13/04, the examiner stated that using a differentially driven two-wire bus arrangement to connect power supply stages is taken to be admitted prior art because the applicant failed to traverse the examiner's assertion of official notice. Therefore, it would have been obvious to one of ordinary skill in the art to use a well known differentially driven two-wire bus arrangement to connect power supply stages.

Regarding claim 5, Song discloses that the first component comprises a display device [heater circuit supplies power to heaters of the electron guns within CRT, column 5, lines 45-47] and the second component comprises a microprocessor [USB hub for connecting peripheral devices, column 5, lines 5-9 and 50-54].

Regarding claim 6, Song discloses that said first stage is located proximately to said display device and said second stage is located proximately to said microprocessor [Figure 2].

Regarding claim 7, Song discloses that said first stage provides power for said first component [heater circuit supplies power to heaters of the electron guns within CRT, column 5,

lines 45-47] and said second stage provides power for said second component [USB hub for connecting peripheral devices, column 5, lines 5-9 and 50-54].

Regarding claims 9 and 14, Song discloses a power supply circuit for a computer system, the circuit comprising:

a first circuit [Primary Power Supply in Figure 2] having a first output capable of providing power to a first component of the computer system [Heater Circuit in Figure 2] and a second output which is different from the first output [output to Hub Power Supply in Figure 2]; and

a second circuit [Hub Power Supply in Figure 2] capable of providing power to a second component of the computer system [USB hub for connecting peripheral devices, column 5, lines 5-9 and 50-54];

wherein said first circuit drives the second circuit through the second output [column 5, lines 52-54], and wherein the second circuit transforms the second output to generate a third output [Figures 2-4 and column 5, lines 50-54] to drive the second component [USB hub for connecting peripheral devices, column 5, lines 5-9 and 50-54], and wherein the first output is independent of the second stage [Figure 2].

Song, as described above, discloses a power supply circuit for a digital processing system, but Song does not explicitly teach that the first stage comprises a flyback converter to supply power to the display device and the second stage comprises a portion of a forward converter to supply power to the microprocessor. However, AAPA states that flyback converters are well known devices for supplying power to display devices [page 2, lines 1-3] and that forward converters are well known devices for supplying power to microprocessors [page 2,

lines 12-14]. AAPA also discloses that the well known flyback converter comprises an output winding [Figure 1A] and that the well known forward converter comprises an input winding [Figure 1B]. It would have been obvious to one of ordinary skill in the art to modify the Song power supply circuit to use a well known flyback converter to generate high voltages from low current in order to supply the display device and to use a well known forward converter to generate low voltages from high current in order to supply power to the microprocessor [AAPA, page 2, lines 1-3 and 12-14].

AAPA discloses a well known flyback converter circuit, but does not specifically disclose a flyback circuit with a second output winding. However, multiple output flyback converter circuits are well known in the art. Mullett discloses a two output flyback converter having a first output winding for supplying an output voltage to a first load and a second transformer winding for supplying an output voltage to a second load [column 2, lines 8-26 and Figure 1]. It would have been obvious to one of ordinary skill in the art to use the well known multiple output flyback converter circuit in the Song power supply circuit to supply a first output voltage to the Heater Circuit and a second output voltage to the Hub Power Supply.

Song does not explicitly teach that the first and second circuits are coupled to each other by a two wire bus. However, as shown by Jansen, transferring power over a two wire bus is well known in the art. Jansen discloses coupling stages in a multi-stage power supply using a two wire bus [0v and +ve, Figure 3 and column 3, lines 45-67].

Regarding claim 11, Song discloses that said second circuit and said second component are disposed on a printed circuit board [Figure 2].

Regarding claim 12, Song discloses that said first circuit is located within an enclosure of the computer system and proximately to said first component, and wherein said second circuit is located within said enclosure and proximately to said second component [Figure 2].

Regarding claim 13, Song discloses that the first component comprises a display device [heater circuit supplies power to heaters of the electron guns within CRT, column 5, lines 45-47] and the second component comprises a microprocessor [USB hub for connecting peripheral devices, column 5, lines 5-9 and 50-54].

Claims 15 and 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Song, US Patent no. 6,049,880, in view of, Applicant's Admitted Prior Art [AAPA] and Jansen, US Patent no. 5,835,360

Regarding claims 15, 17 and 20, Song discloses a computer system comprising:

a power supply circuit coupled to a display device [heater circuit supplies power to heaters of the electron guns within CRT, column 5, lines 45-47] and a microprocessor of the computer system [USB hub for connecting peripheral devices, column 5, lines 5-9 and 50-54], wherein said power supply circuit is capable of supplying power to said display device and said microprocessor using at least two distinct power supply stages [first stage is Primary Power Supply in Figure 2 and second stage is the Hub Power Supply in Figure 2];

a main circuit coupled to said display device using a first output [Primary Power Supply in Figure 2]; and

a secondary circuit coupled to said microprocessor [Hub Power Supply in Figure 2]; and

wherein said main circuit drives said secondary circuit using a second output [column 5, lines 52-54] which is different from the first output, and wherein said secondary circuit transforms said second output to generate a third output [Figures 2-4 and column 5, lines 50-54] to drive the microprocessor [USB hub for connecting peripheral devices, column 5, lines 5-9 and 50-54].

Song, as described above, discloses a power supply circuit for a digital processing system, but Song does not explicitly teach that the first stage comprises a flyback converter to supply power to the display device and the second stage comprises a portion of a forward converter to supply power to the microprocessor. However, AAPA states that flyback converters are well known devices for supplying power to display devices [page 2, lines 1-3] and that forward converters are well known devices for supplying power to microprocessors [page 2, lines 12-14]. AAPA also discloses that the well known flyback converter comprises an output winding [Figure 1A] and that the well known forward converter comprises an input winding [Figure 1B]. It would have been obvious to one of ordinary skill in the art to modify the Song power supply circuit to use a well known flyback converter to generate high voltages from low current in order to supply the display device and to use a well known forward converter to generate low voltages from high current in order to supply power to the microprocessor [AAPA, page 2, lines 1-3 and 12-14].

Song does not explicitly teach that the first and second stages are coupled to each other by a two wire bus. However, as shown by Jansen, transferring power over a two wire bus is well known in the art. Jansen discloses coupling stages in a multi-stage power supply using a two wire bus [0v and +ve, Figure 3 and column 3, lines 45-67].

Regarding claim 18, Song discloses that said main circuit and said secondary circuit are physically isolated from each other [Figure 2].

Regarding claim 19, Song discloses that said main circuit and said secondary circuit are electrically coupled to each other [Figure 2 and column 5, lines 50-54].

Regarding claims 21 and 22, Song, as described above, discloses a power supply circuit for a digital processing system wherein the first output provides DC voltage [column 5, lines 49-50], but Song does not explicitly teach that the second output provides AC voltage.

In the non-final office action dated on 9/13/04, the examiner stated that using AC to DC and DC to AC converters in a system in order to supply appropriate voltages to components is taken to be admitted prior art because the applicant failed to traverse the examiner's assertion of official notice. Therefore, it would have been obvious to one of ordinary skill in the art to use well known AC to DC and DC to AC converters in a system in order to supply appropriate voltages to components.

A. ELAMIN
PRIMARY EXAMINER